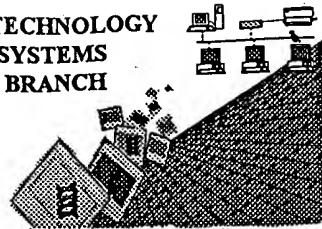


BIOTECHNOLOGY  
SYSTEMS  
BRANCH



03C0

## RAW SEQUENCE LISTING ERROR REPORT

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/718,355A  
Source: OIPE  
Date Processed by STIC: 3/27/02

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: [patin3help@uspto.gov](mailto:patin3help@uspto.gov) or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER  
VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND  
TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by treatment given to all incoming mail.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

Any reply including a sequence listing in electronic form should NOT be sent to the 20231 zip code address for the United States Patent and Trademark Office, and instead should be sent via the following to the indicated addresses:

1. EFS-Bio (<http://www.uspto.gov/efb/efs/downloads/documents.htm>), EFS Submission User Manual - ePAVE)
2. U.S. Postal Service: U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202
3. Hand Carry directly to:  
U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7<sup>th</sup> Floor, Examiner Name, Sequence Information, Crystal Mall One, 1911 South Clark Street, Arlington, VA 22202  
Or  
U.S. Patent and Trademark Office, Box Sequence, Customer Window, Lobby, Room 1B03, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202
4. Federal Express, United Parcel Service, or other delivery service to: U.S. Patent and Trademark Office, Box Sequence, Room 1B03-Mailroom, Crystal Plaza Two, 2011 South Clark Place, Arlington, VA 22202

Revised 01/29/2002

# Raw Sequence Listing Error Summary

01PE

## ERROR DETECTED

## SUGGESTED CORRECTION

SERIAL NUMBER: 09/718,355A

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1      Wrapped Nucleics  
    Wrapped Aminos      The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
- 2      Invalid Line Length      The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3      Misaligned Amino  
    Numbering      The numbering under each 5<sup>th</sup> amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4      Non-ASCII      The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5      Variable Length      Sequence(s)          contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6      PatentIn 2.0  
    "bug"      A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s)         . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7      Skipped Sequences  
    (OLD RULES)      Sequence(s)          missing. If intentional, please insert the following lines for each skipped sequence:  
    (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
    (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading)  
    (xi) SEQUENCE DESCRIPTION: SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)  
    This sequence is intentionally skipped  
  
    Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
- 8      Skipped Sequences  
    (NEW RULES)      Sequence(s)          missing. If intentional, please insert the following lines for each skipped sequence.  
    <210> sequence id number  
    <400> sequence id number  
    000
- 9      ✓ Use of n's or Xaa's  
    (NEW RULES)      Use of n's and/or Xaa's have been detected in the Sequence Listing.  
    Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.  
    In <220> to <223> section, please explain location of n or Xaa; and which residue n or Xaa represents.
- 10      Invalid <213>  
    Response      Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
- 11      Use of <220>      Sequence(s)          missing the <220> "Feature" and associated numeric identifiers and responses.  
    Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.  
    (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12      PatentIn 2.0  
    "bug"      Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13      Misuse of n      n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.

AMC/MH - Biotechnology Systems Branch - 08/21/2001



OIPE

**Does Not Comply  
Corrected Diskette Needed**

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/718,355A

DATE: 03/25/2002  
TIME: 10:34:29

Input Set : A:\EP.txt  
Output Set: N:\CRF3\03252002\I718355A.raw

→ The type of errors shown exist throughout the Sequence Listing. Please check subsequent sequences for similar errors.

3 <110> APPLICANT: McGill University  
4       Rouleau, Guy A.  
5       LafreniSre, Ronald G.  
6       Cossette, Patrick  
7       Ragsdale, David  
9 <120> TITLE OF INVENTION: LOCI FOR IDIOPATHIC GENERALIZED EPILEPSY, MUTATIONS  
10       THEREOF AND METHOD USING SAME TO ASSESS, DIAGNOSE,  
11       PROGNOSE OR TREAT EPILEPSY  
13 <130> FILE REFERENCE: GOUD:023  
C--> 15 <140> CURRENT APPLICATION NUMBER: US/09/718,355A  
C--> 15 <141> CURRENT FILING DATE: 2000-11-24  
15 <150> PRIOR APPLICATION NUMBER: 09/718,355  
16 <151> PRIOR FILING DATE: 2000-11-24  
W--> 18 <140> CURRENT APPLICATION NUMBER: PCT/CA00/01404A  
C--> 19 <141> CURRENT FILING DATE: 2000-11-24  
W--> 21 <140> CURRENT APPLICATION NUMBER: <140? 60/167,623A  
W--> 22 <141> CURRENT FILING DATE: 1999-11-26  
24 <160> NUMBER OF SEQ ID NOS: 408  
26 <170> SOFTWARE: PatentIn Ver. 2.1

#### ERRORED SEQUENCES

709 <210> SEQ ID NO: 4  
710 <211> LENGTH: 1246  
711 <212> TYPE: DNA  
712 <213> ORGANISM: Homo sapiens  
714 <400> SEQUENCE: 4

requires location of n and explanation  
of what residue n represents  
- see error summary sheet item 9

E--> 715 mtvvgdsntsr saarrakakn kdkkdddngk nsdagknygd mvsddyyakk tvnkgkarsa 60  
E--> 716 tsaytnrkak vhssmmcttn cvmtmsndwt knvyttgyts kargcdtrdw nwdtvtavtv 120  
E--> 717 ngnsarttrvr aktsvgktvg asvkksdvmt vcsvagmgnr nkcwtashs kntvnyngtn 180  
E--> 718 tvdwksydsr yhygdacgns sdagcgymcv kagrnnyygt sdtswasrmt dwnytraagk 240  
E--> 719 tymvvgssyna vvamaynata kamkkaaata atashrsaa grsdsssask ssksakrrnr 300  
E--> 720 rkkrrksggk ddkssdsrrk grsgnrtykr ysshssrgss rrsrtssrg rakdvgsnda 360  
E--> 721 ddhstdnsrr dsrrhgrn snstsrssrm avangkmhst vdcngvsvg gsvtsgvdk 420  
E--> 722 atddngtttt mrkrrssshv smddsrrams astntvsrk cwyksnwds ywkvkhvvnv 480  
E--> 723 vmdvdatecvt tmamhymtdh nnvtvgntvg tamkamdygy gwndgvtsvg anvgsvrsrr 540  
E--> 724 vkakswtnmk gnsvgagntv avavvgmgks ykdcvckasd crwhmndhsv rvcgwtmwdc 600  
E--> 725 mvagamctvm mvmvgnvna sssadnaatd ddnmnavdr mhkgvayvkr kysrkdkdd 660  
E--> 726 nnkkdscmsn htagkddykd vngttsgggtg ssvkydsdym snnstvtvav gsdnntdsss 720  
E--> 727 dskknsssss gstvdgavvv tactgcvrkc cnvgrgkwn rrtcrvhnwt vmssgaadyd 780  
E--> 728 rktktmyadk vtymkwvayg ytytnawc wdsvstana gysgaksrtr arrasrgmr 840  
E--> 729 vvnagasmnv vcwsmgvnag kyhcntttgd rddvnnhtdc krntarwknv kvndnvggys 900

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/718,355A

DATE: 03/25/2002  
TIME: 10:34:29

Input Set : A:\EP.txt  
Output Set: N:\CRF3\03252002\I718355A.raw

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E--> 730 vatkgwmdmy aavdsrnvky symyyvgstn gvdnnkkkkg dmtkkyyynam kkgsskkkrgn 960
E--> 731 kgmvdvtrvd smcnmvtmmv tddsyvttsr nvvtgcvksr hyytgwndvv vsvgmakyvs 1020
E--> 732 trvrargrrk gakgrtamms angvmyagms nayvkrvgdd mntgnsmtt sagwdgansk 1080
E--> 733 dcdnkvnsgs vkgdgcgnsvg vsysvvvnmv avnsvatsas ddmyvwkdda tmksaaannk 1140
E--> 734 amdmsvgdrh cdatkrvgsg mdarmmasn skvsytttkr kvsavrayrr hkrtvkasty 1200
E--> 735 nknkkggank dmdrnnstkt dtmstaacsy drvtkvkhgk dkakgk 1246

1073 <210> SEQ ID NO: 23
1074 <211> LENGTH: 516
1075 <212> TYPE: DNA
1076 <213> ORGANISM: Homo sapiens
1078 <400> SEQUENCE: 23
1079 aagcttacat tgtgaattat ggtaaaaggg ttagcacaga caatgatttt cttattttctt 60
1080 ccccttattc aatctctctt tttctctaaa aatatctcta cctcaagaag aataaaaaaac 120
1081 aaattcatag taataatcct tcttggcagg caacttatta ccaaaattaa ggactttact 180
1082 ttctatgtcc atctcactta cagaaactga atgaaagcag tagctcatca gaaggtagca 240
1083 ctgtggacat cggcgcacct gtagaagaac agcccgtagt ggaacctgaa gaaactcttg 300
1084 aacccgaagc ttgtttcact gaaggtaaag aaaagaatcc taatgttaat ctttcatttg 360
E--> 1085 gagtgcagct tatttagctg ttggtcagct aanataaatc acatataata aaatngcact 420
E--> 1086 ttgtaataga tataattcaa tcacctctaa tatnttgaca gacaaaaaaa cttaaagtct 480
E--> 1087 agtgtcatgc tttgattata tctgcccaat atntgg 516

1178 <210> SEQ ID NO: 29
1179 <211> LENGTH: 379
1180 <212> TYPE: DNA
1181 <213> ORGANISM: Homo sapiens
1183 <400> SEQUENCE: 29
E--> 1184 cagaaaaaaa aaaaatgctg acatattagt aagaataatt ttntctattg ttatgaaaaa 60
1185 gcaccagtga cgatttccag cactaaaatg tatggtaata ttttacaaaa tattcccctt 120
1186 tggtaggtgg aactccagcc taagtatgaa gaaagtctgt acatgtatct ttactttgtt 180
1187 attttcatca tctttgggtc cttcttcacc ttgaacctgt ttattgggtg catcatagat 240
1188 aatttcaacc agcagaaaaa gaagataagt atttctaata tttctctcc cactgagata 300
1189 gaaaaattat tccttgaggt gttttctctg ccaaatgagt acttgaattt agaacaaatg 360
1190 ggagtatata ttataactg 379

2436 <210> SEQ ID NO: 41
2437 <211> LENGTH: 370
2438 <212> TYPE: DNA
2439 <213> ORGANISM: Homo sapiens
2441 <400> SEQUENCE: 41
2442 taagatatgt acttgtaaatt taaccactag atttttaatg tgagcttggc tattgtctct 60
2443 caggtataacc tttacaggaa tttatacttt tgaatcactt attaaaatac ttgcaagggg 120
2444 cttttgttta gaagatttca catttttacg ggatccatgg aattggttg atttcacagt 180
2445 cattactttt gcgtaagtat cttatacat tttctatcct ggaagagtaa atcactggtg 240
E--> 2446 ggagcctata ctatattttc cttggtggtg tgccttgaca gaccaagcat ttntcttagt 300
2447 aatcatagtt ttcttccaat caaattatcc agtttgagaa aattaggaac tatcatagta 360
2448 aattacatgg 370

2451 <210> SEQ ID NO: 42
2452 <211> LENGTH: 370
2453 <212> TYPE: DNA
2454 <213> ORGANISM: Homo sapiens
2456 <400> SEQUENCE: 42

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RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/718,355A

DATE: 03/25/2002  
TIME: 10:34:30

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Output Set: N:\CRF3\03252002\I718355A.raw

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2457 caattagcac tgtaaagtaa taaagtttcc caaataacag agattatgat tgatgacaat 60
2458 gccattttcc tcttaattgg gaaagctgat ggcgacactc atgaaattaa aaaggtcttg 120
E--> 2459 atgaaagacc aangaagacg tagatttccc taaattctga ataactctga ttttaattcta 180
2460 caggtagtga acagaatttg taaacctagg caatgtttca gctcttcgaa ctttcagagt 240
2461 cttgagagct ttgaaaacta tttctgtaat tccaggtaag aagaaaatgg tataaggtgg 300
2462 taggccccctt atatctccaa ctgtttcttg tgttctgtca ttgtgtttgt gtgtgaaccc 360
2463 cctattacag
2481 <210> SEQ ID NO: 44
2482 <211> LENGTH: 1066
2483 <212> TYPE: DNA
2484 <213> ORGANISM: Homo sapiens
2486 <400> SEQUENCE: 44
2487 aaagagtgtt tggaaataca catttggttc atttccattc acagttttct aatgaacata 60
2488 caagttctgc tttcattcat tttcaccagc tagtaggctt ttcattgaaa tgttattcaa 120
2489 tcacaaacat taaactaata ttgttggcat tctgcatgac atttttattt tccaggccaa 180
E--> 2490 gctcatgata tttttgccgg taaaatagct gttgagtagt atatttaant tcccccttct 240
2491 gattttgttt gtaggcctga agaccattgt gggggccctg atccagtcag tgaagaagct 300
2492 ttctgatgtc atgatcttga ctgtgttctg tctaagcgtg tttgcgctaa taggattgca 360
2493 gttgttcatg ggcaacctac gaaataaatg tttgcaatgg cctccagata attcttctct 420
2494 tgaaataaat atcacttctt tctttaacaa ttcattggat gggaatggta ctactttcaa 480
2495 taggacagtg agcatattta actgggatga atatatagg gataaaagta agatatactc 540
2496 tataaaccat taagtgtttt agttctctaa atattaaata ttatatataa tggaaattat 600
2497 ctcaatttag atgtgaatca agtgacttag actaatttaa gatgatttaa tacatataaa 660
2498 agagatatca aaggatacct tattctattt ttsttatctg tccattgata tagtaaaagt 720
2499 tctcatttga aaatgtgttg tcttatactc atgttgaaag taatttcata ttatgccata 780
2500 ttaaaaaagg tttatttggg agacattaat cagggttttc agtcatttta ataaataagt 840
2501 cagtagtttg aactattcmg cgtattccac tgaaatgtcg ttaagaagac tgaggggaaa 900
2502 taatttggcc ctatttgggt gatgcaacat atgtattgag tacatatgct atatctgaaa 960
2503 ctagagaaac catttatcaa gatgaaataa gaatttgtgt gctcctcaga aggttaagta 1020
2504 accctgattt agccattcac ttcattccata ttctaattag tccctt 1066
2557 <210> SEQ ID NO: 48
2558 <211> LENGTH: 711
2559 <212> TYPE: DNA
2560 <213> ORGANISM: Homo sapiens
2562 <400> SEQUENCE: 48
2563 tatgtatcat cttccatatg aatgcgcatt ttactctttg attggtctaa taacagtgta 60
2564 ctgtgttcta aaacacagaa taaaatggag aattgttttt caagattatc ttcattgata 120
E--> 2565 tgaagctcaa ttaagcagta acatgataat tattttttta gatnatatgc aacttcccac 180
2566 atactttgcg ccttcttagg cggcagctgc agccgcatct gctgaatcaa gagacttcag 240
2567 tgggtgctggg gggataggag ttttttcaga gagtcttca gtagcatcta agttgagctc 300
2568 caaaagtga aaagagctga aaaacagaag aaagaaaaag aaacagaaag aacagtctgg 360
2569 agaagaagag aaaaatgaca gagtcctaaa atcggaatct gaagacagca taagaagaaa 420
2570 aggtttccgt ttttcttggg aaggaagtag gctgacatat gaaaagagat tttcttctcc 480
2571 acaccaggta aaaatattaa attacatgaa ttgtgttctc ataaattttt taaaagaata 540
2572 tgccagaatt taatggagag aaaaccgcct tccacctgga tggcacaatg ctttcagagt 600
2573 agtgatgatt atcaagtgtt ttggctatca cttcagagaa tttgtgagtt ttgcaacttt 660
2574 ttggaatccc aggaaggaaa ttttagatcc ctctgggttt ggaaaaattt g 711
2699 <210> SEQ ID NO: 55
2700 <211> LENGTH: 615

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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/718,355A

DATE: 03/25/2002  
TIME: 10:34:30

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Output Set: N:\CRF3\03252002\I718355A.raw

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2701 <212> TYPE: DNA
2702 <213> ORGANISM: Homo sapiens
2704 <400> SEQUENCE: 55
2705 atctctatac taggctcaaa cagaagttat ttccgttggt agcaccatat ttttaaaaga 60
E--> 2706 aaaaaaata ctatggtggt gtatctaata ttgtgacccc tgacctttac caaagcggat 120
2707 tggcattatg ttttaagttct taattacaga tcaagaaaaa tgcatacaga agatgggggg 180
2708 gggcacacct aattaatttt tatatttaga ttaaagaaaa taattaaatg tgtttttttg 240
2709 tgggattgat tttcagaagc taaatgcaac tagttcatct gaaggcagca cggttgatat 300
2710 tggagctccc gccgaggagg aacagcctga ggttgaacct gaggaatccc ttgaacctga 360
E--> 2711 agcctgtttt acagaagann nnnnnnaagc aaaacaataa catatgtggt cttgagtatc 420
2712 ctctttttcta cccatttttt cctattttatt taaatgtctg tttatttgtc taccatctag 480
2713 ttcatctatc tatctgtatc tatctatcta tctatctatc tagtaatcat ctataacctat 540
2714 ccaacaactg tacattttatt tgtttttttt ttttgcattt gctgtttgaa aaaaaatgca 600
2715 acgttttaaa ggcaa 615
3244 <210> SEQ ID NO: 67
3245 <211> LENGTH: 1951
3246 <212> TYPE: PRT
3247 <213> ORGANISM: Homo sapiens
3249 <400> SEQUENCE: 67
3250 Met Ala Gln Ala Leu Leu Val Pro Pro Gly Pro Glu Ser Phe Arg Leu
3251 1 5 10 15
3253 Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Lys Arg Ala Ala Glu Glu
3254 20 25 30
3256 Lys Ala Lys Lys Pro Lys Lys Glu Gln Asp Asn Asp Asp Glu Asn Lys
3257 35 40 45
3259 Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile
3260 50 55 60
3262 Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu
3263 65 70 75 80
3265 Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Met Asn Lys Gly
3266 85 90 95
3268 Lys Ala Ile Ser Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr
3269 100 105 110
E--> 3271 Pro Leu Asn Pro Val Arg Lys Ile Ala Xaa Lys Ile Leu Val His Ser
3272 115 120 125
3274 Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe
3275 130 135 140
3277 Met Thr Leu Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr
3278 145 150 155 160
3280 Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala Arg
3281 165 170 175
3283 Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp
3284 180 185 190
3286 Leu Asp Phe Ser Val Ile Val Met Ala Tyr Val Thr Glu Phe Val Asp
3287 195 200 205
3289 Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu
3290 210 215 220
3292 Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu
3293 225 230 235 240

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## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/718,355A

DATE: 03/25/2002

TIME: 10:34:30

Input Set : A:\EP.txt

Output Set: N:\CRF3\03252002\I718355A.raw

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3295 Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe
3296                245                250                255
3298 Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn
3299                260                265                270
3301 Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Ser Asp Ser Ala Phe Glu
3302                275                280                285
3304 Thr Asn Thr Thr Ser Tyr Phe Asn Gly Thr Met Asp Ser Asn Gly Thr
3305                290                295                300
3307 Phe Val Asn Val Thr Met Ser Thr Phe Asn Trp Lys Asp Tyr Ile Gly
3308 305                310                315                320
3310 Asp Asp Ser His Phe Tyr Val Leu Asp Gly Gln Lys Asp Pro Leu Leu
3311                325                330                335
3313 Cys Gly Asn Gly Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile Cys
3314                340                345                350
3316 Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr
3317                355                360                365
3319 Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Tyr
3320                370                375                380
3322 Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr
3323 385                390                395                400
3325 Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Val
3326                405                410                415
3328 Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Gly Gln Asn Gln
3329                420                425                430
3331 Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met
3332                435                440                445
3334 Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Val Ala Ala
3335                450                455                460
3337 Ala Ser Ala Ala Ser Arg Asp Phe Ser Gly Ile Gly Gly Leu Gly Glu
3338 465                470                475                480
3340 Leu Leu Glu Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala
3341                485                490                495
3343 Lys Glu Trp Arg Asn Arg Arg Lys Lys Arg Arg Gln Arg Glu His Leu
3344                500                505                510
3346 Glu Gly Asn Asn Lys Gly Glu Arg Asp Ser Phe Pro Lys Ser Glu Ser
3347                515                520                525
3349 Glu Asp Ser Val Lys Arg Ser Ser Phe Leu Phe Ser Met Asp Gly Asn
3350                530                535                540
3352 Arg Leu Thr Ser Asp Lys Lys Phe Cys Ser Pro His Gln Ser Leu Leu
3353 545                550                555                560
3355 Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Lys Thr Ser
3356                565                570                575
3358 Ile Phe Ser Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp
3359                580                585                590
3361 Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Ser Glu Ser Arg Arg
3362                595                600                605
3364 Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg Asn Ser Asn
3365                610                615                620
3367 Gly Thr Thr Thr Glu Thr Glu Val Arg Lys Arg Arg Leu Ser Ser Tyr

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/718,355A

DATE: 03/25/2002

TIME: 10:34:30

Input Set : A:\EP.txt

Output Set: N:\CRF3\03252002\I718355A.raw

```

3368 625          630          635          640
3370 Gln Ile Ser Met Glu Met Leu Glu Asp Ser Ser Gly Arg Gln Arg Ala
3371          645          650          655
3373 Val Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu
3374          660          665          670
3376 Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Arg Phe Ala Asn Val Phe
3377          675          680          685
3379 Leu Ile Trp Asp Cys Cys Asp Ala Trp Leu Lys Val Lys His Leu Val
3380          690          695          700
3382 Asn Leu Ile Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys
3383 705          710          715          720
3385 Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr
3386          725          730          735
3388 Glu Gln Phe Ser Ser Val Leu Thr Val Gly Asn Leu Val Phe Thr Gly
3389          740          745          750
3391 Ile Phe Thr Ala Glu Met Val Leu Lys Ile Ile Ala Met Asp Pro Tyr
3392          755          760          765
3394 Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Ile Ile Val Ser
3395          770          775          780
3397 Leu Ser Leu Met Glu Leu Gly Leu Ser Asn Val Glu Gly Leu Ser Val
3398 785          790          795          800
3400 Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp
3401          805          810          815
3403 Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala
3404          820          825          830
3406 Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala
3407          835          840          845
3409 Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys
3410          850          855          860
3412 Lys Ile Asn Asp Asp Cys Thr Leu Pro Arg Trp His Met Asn Asp Phe
3413 865          870          875          880
3415 Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile
3416          885          890          895
3418 Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu
3419          900          905          910
3421 Ile Val Phe Met Leu Val Met Val Ile Gly Asn Leu Val Val Leu Asn
3422          915          920          925
3424 Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala
3425          930          935          940
3427 Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly
3428 945          950          955          960
3430 Arg Met Gln Lys Gly Ile Asp Tyr Val Lys Asn Lys Met Arg Glu Cys
3431          965          970          975
3433 Phe Gln Lys Ala Phe Phe Arg Lys Pro Lys Val Ile Glu Ile His Glu
3434          980          985          990
3436 Gly Asn Lys Ile Asp Ser Cys Met Ser Asn Asn Thr Gly Ile Glu Ile
3437          995          1000          1005
3439 Ser Lys Glu Leu Asn Tyr Leu Arg Asp Gly Asn Gly Thr Thr Ser Gly
3440          1010          1015          1020

```



## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/718,355A

DATE: 03/25/2002

TIME: 10:34:30

Input Set : A:\EP.txt

Output Set: N:\CRF3\03252002\I718355A.raw

```

3442 Val Gly Thr Gly Ser Ser Val Glu Lys Tyr Val Ile Asp Glu Asn Asp
3443 1025 1030 1035 1040
3445 Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val Thr Val Pro Ile
3446 1045 1050 1055
3448 Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser
3449 1060 1065 1070
3451 Ser Glu Ser Glu Leu Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser
3452 1075 1080 1085
3454 Ser Ser Glu Gly Ser Thr Val Asp Val Val Leu Pro Arg Glu Gly Glu
3455 1090 1095 1100
3457 Gln Ala Glu Thr Glu Pro Glu Glu Asp Leu Lys Pro Glu Ala Cys Phe
3458 1105 1110 1115 1120
3460 Thr Glu Gly Cys Ile Lys Lys Phe Pro Phe Cys Gln Val Ser Thr Glu
3461 1125 1130 1135
3463 Glu Gly Lys Gly Lys Ile Trp Trp Asn Leu Arg Lys Thr Cys Tyr Ser
3464 1140 1145 1150
3466 Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu
3467 1155 1160 1165
3469 Leu Ser Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile Glu Gln Arg
3470 1170 1175 1180
3472 Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr
3473 1185 1190 1195 1200
3475 Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Phe Gln
3476 1205 1210 1215
3478 Thr Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile Val Asp
3479 1220 1225 1230
3481 Val Ser Leu Val Ser Leu Val Ala Asn Ala Leu Gly Tyr Ser Glu Leu
3482 1235 1240 1245
3484 Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg Pro Leu Arg
3485 1250 1255 1260
3487 Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val Asn Ala Leu Val
3488 1265 1270 1275 1280
3490 Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val Cys Leu Ile Phe
3491 1285 1290 1295
3493 Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu Phe Ala Gly Lys Phe
3494 1300 1305 1310
3496 Tyr His Cys Val Asn Met Thr Thr Gly Asn Met Phe Asp Ile Ser Asp
3497 1315 1320 1325
3499 Val Asn Asn Leu Ser Asp Cys Gln Ala Leu Gly Lys Gln Ala Arg Trp
3500 1330 1335 1340
3502 Lys Asn Val Lys Val Asn Phe Asp Asn Val Gly Ala Gly Tyr Leu Ala
3503 1345 1350 1355 1360
3505 Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala
3506 1365 1370 1375
3508 Ala Val Asp Ser Arg Asp Val Lys Leu Gln Pro Val Tyr Glu Glu Asn
3509 1380 1385 1390
3511 Leu Tyr Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile Phe Gly Ser Phe
3512 1395 1400 1405
3514 Phe Thr Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln

```

## RAW SEQUENCE LISTING

DATE: 03/25/2002

PATENT APPLICATION: US/09/718,355A

TIME: 10:34:30

Input Set : A:\EP.txt

Output Set: N:\CRF3\03252002\I718355A.raw

```

3515      1410      1415      1420
3517 Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu Gln
3518 1425      1430      1435      1440
3520 Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys Pro Gln
3521      1445      1450      1455
3523 Lys Pro Ile Pro Arg Pro Ala Asn Lys Phe Gln Gly Met Val Phe Asp
3524      1460      1465      1470
3526 Phe Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met Ile Leu Ile Cys
3527      1475      1480      1485
3529 Leu Asn Met Val Thr Met Met Val Glu Thr Asp Asp Gln Gly Lys Tyr
3530      1490      1495      1500
3532 Met Thr Leu Val Leu Ser Arg Ile Asn Leu Val Phe Ile Val Leu Phe
3533 1505      1510      1515      1520
3535 Thr Gly Glu Phe Val Leu Lys Leu Val Ser Leu Arg His Tyr Tyr Phe
3536      1525      1530      1535
3538 Thr Ile Gly Trp Asn Ile Phe Asp Phe Val Val Val Ile Leu Ser Ile
3539      1540      1545      1550
3541 Val Gly Met Phe Leu Ala Glu Met Ile Glu Lys Tyr Phe Val Ser Pro
3542      1555      1560      1565
3544 Thr Leu Phe Arg Val Ile Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg
3545      1570      1575      1580
3547 Leu Ile Lys Gly Ala Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu Met
3548 1585      1590      1595      1600
3550 Met Ser Leu Pro Ala Leu Phe Asn Ile Gly Leu Leu Leu Phe Leu Val
3551      1605      1610      1615
3553 Met Phe Ile Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala Tyr Val Lys
3554      1620      1625      1630
3556 Lys Glu Ala Gly Ile Asp Asp Met Phe Asn Phe Glu Thr Phe Gly Asn
3557      1635      1640      1645
3559 Ser Met Ile Cys Leu Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly
3560      1650      1655      1660
3562 Leu Leu Ala Pro Ile Leu Asn Ser Ala Pro Pro Asp Cys Asp Pro Asp
3563 1665      1670      1675      1680
3565 Thr Ile His Pro Gly Ser Ser Val Lys Gly Asp Cys Gly Asn Pro Ser
3566      1685      1690      1695
3568 Val Gly Ile Phe Phe Phe Val Ser Tyr Ile Ile Ile Ser Phe Leu Val
3569      1700      1705      1710
3571 Val Val Asn Ser Tyr Ile Ala Val Ile Leu Glu Asn Phe Ser Val Ala
3572      1715      1720      1725
3574 Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu Asp Asp Phe Glu Met Phe
3575      1730      1735      1740
3577 Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp Ala Thr Gln Phe Ile Glu
3578 1745      1750      1755      1760
3580 Phe Ser Lys Leu Ser Asp Phe Ala Ala Ala Leu Asp Pro Pro Leu Leu
3581      1765      1770      1775
3583 Ile Ala Lys Pro Asn Lys Val Gln Leu Ile Ala Met Asp Leu Pro Met
3584      1780      1785      1790
3586 Val Ser Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr
3587      1795      1800      1805

```

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/718,355A

DATE: 03/25/2002  
 TIME: 10:34:30

Input Set : A:\EP.txt  
 Output Set: N:\CRF3\03252002\I718355A.raw

```

3589 Lys Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln
3590      1810      1815      1820
3592 Met Glu Asp Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Glu
3593 1825      1830      1835      1840
3595 Pro Ile Thr Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Ala
3596      1845      1850      1855
3598 Ile Ile Gln Arg Asn Phe Arg Cys Tyr Leu Leu Lys Gln Arg Leu Lys
3599      1860      1865      1870
3601 Asn Ile Ser Ser Asn Tyr Asn Lys Glu Ala Ile Lys Gly Arg Ile Asp
3602      1875      1880      1885
3604 Leu Pro Ile Lys Gln Asp Met Ile Ile Asp Lys Leu Asn Gly Asn Ser
3605      1890      1895      1900
3607 Thr Pro Glu Lys Thr Asp Gly Ser Ser Ser Thr Thr Ser Pro Pro Ser
3608 1905      1910      1915      1920
3610 Tyr Asp Ser Val Thr Lys Pro Asp Lys Glu Lys Phe Glu Lys Asp Lys
3611      1925      1930      1935
3613 Pro Glu Lys Glu Ser Lys Gly Lys Glu Val Arg Glu Asn Gln Lys
3614      1940      1945      1950
3617 <210> SEQ ID NO: 68
3618 <211> LENGTH: 1951
3619 <212> TYPE: PRT
3620 <213> ORGANISM: Homo sapiens same
3622 <400> SEQUENCE: 68
3623 Met Ala Gln Ala Leu Leu Val Pro Pro Gly Pro Glu Ser Phe Arg Leu
3624      1      5      10      15
3626 Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Lys Arg Ala Ala Glu Glu
3627      20      25      30
3629 Lys Ala Lys Lys Pro Lys Lys Glu Gln Asp Asn Asp Asp Glu Asn Lys
3630      35      40      45
3632 Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile
3633      50      55      60
3635 Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu
3636      65      70      75      80
3638 Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Met Asn Lys Gly
3639      85      90      95
3641 Lys Ala Ile Ser Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr
3642      100      105      110
E--> 3644 Pro Leu Asn Pro Val Arg Lys Ile Ala Xaa Lys Ile Leu Val His Ser
3645      115      120      125
3647 Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe
3648      130      135      140
3650 Met Thr Leu Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr
3651 145      150      155      160
3653 Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala Arg
3654      165      170      175
3656 Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp
3657      180      185      190
3659 Leu Asp Phe Ser Val Ile Val Met Ala Tyr Val Thr Glu Phe Val Ser
3660      195      200      205

```

## RAW SEQUENCE LISTING

DATE: 03/25/2002

PATENT APPLICATION: US/09/718,355A

TIME: 10:34:30

Input Set : A:\EP.txt

Output Set: N:\CRF3\03252002\I718355A.raw

```

3662 Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu
3663      210      215      220
3665 Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu
3666 225      230      235      240
3668 Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe
3669      245      250      255
3671 Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn
3672      260      265      270
3674 Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Ser Asp Ser Ala Phe Glu
3675      275      280      285
3677 Thr Asn Thr Thr Ser Tyr Phe Asn Gly Thr Met Asp Ser Asn Gly Thr
3678      290      295      300
3680 Phe Val Asn Val Thr Met Ser Thr Phe Asn Trp Lys Asp Tyr Ile Gly
3681 305      310      315      320
3683 Asp Asp Ser His Phe Tyr Val Leu Asp Gly Gln Lys Asp Pro Leu Leu
3684      325      330      335
3686 Cys Gly Asn Gly Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile Cys
3687      340      345      350
3689 Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr
3690      355      360      365
3692 Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Tyr
3693      370      375      380
3695 Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr
3696 385      390      395      400
3698 Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Val
3699      405      410      415
3701 Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Gly Gln Asn Gln
3702      420      425      430
3704 Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met
3705      435      440      445
3707 Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Val Ala Ala
3708      450      455      460
3710 Ala Ser Ala Ala Ser Arg Asp Phe Ser Gly Ile Gly Gly Leu Gly Glu
3711 465      470      475      480
3713 Leu Leu Glu Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala
3714      485      490      495
3716 Lys Glu Trp Arg Asn Arg Arg Lys Lys Arg Arg Gln Arg Glu His Leu
3717      500      505      510
3719 Glu Gly Asn Asn Lys Gly Glu Arg Asp Ser Phe Pro Lys Ser Glu Ser
3720      515      520      525
3722 Glu Asp Ser Val Lys Arg Ser Ser Phe Leu Phe Ser Met Asp Gly Asn
3723      530      535      540
3725 Arg Leu Thr Ser Asp Lys Lys Phe Cys Ser Pro His Gln Ser Leu Leu
3726 545      550      555      560
3728 Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Lys Thr Ser
3729      565      570      575
3731 Ile Phe Ser Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp
3732      580      585      590
3734 Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Ser Glu Ser Arg Arg

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/718,355A

DATE: 03/25/2002

TIME: 10:34:30

Input Set : A:\EP.txt

Output Set: N:\CRF3\03252002\I718355A.raw

```

3735          595          600          605
3737 Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg Asn Ser Asn
3738          610          615          620
3740 Gly Thr Thr Thr Glu Thr Glu Val Arg Lys Arg Arg Leu Ser Ser Tyr
3741 625          630          635          640
3743 Gln Ile Ser Met Glu Met Leu Glu Asp Ser Ser Gly Arg Gln Arg Ala
3744          645          650          655
3746 Val Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu
3747          660          665          670
3749 Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Arg Phe Ala Asn Val Phe
3750          675          680          685
3752 Leu Ile Trp Asp Cys Cys Asp Ala Trp Leu Lys Val Lys His Leu Val
3753          690          695          700
3755 Asn Leu Ile Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys
3756 705          710          715          720
3758 Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr
3759          725          730          735
3761 Glu Gln Phe Ser Ser Val Leu Thr Val Gly Asn Leu Val Phe Thr Gly
3762          740          745          750
3764 Ile Phe Thr Ala Glu Met Val Leu Lys Ile Ile Ala Met Asp Pro Tyr
3765          755          760          765
3767 Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Ile Ile Val Ser
3768          770          775          780
3770 Leu Ser Leu Met Glu Leu Gly Leu Ser Asn Val Glu Gly Leu Ser Val
3771 785          790          795          800
3773 Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp
3774          805          810          815
3776 Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala
3777          820          825          830
3779 Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala
3780          835          840          845
3782 Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys
3783          850          855          860
3785 Lys Ile Asn Asp Asp Cys Thr Leu Pro Arg Trp His Met Asn Asp Phe
3786 865          870          875          880
3788 Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile
3789          885          890          895
3791 Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu
3792          900          905          910
3794 Ile Val Phe Met Leu Val Met Val Ile Gly Asn Leu Val Val Leu Asn
3795          915          920          925
3797 Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala
3798          930          935          940
3800 Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly
3801 945          950          955          960
3803 Arg Met Gln Lys Gly Ile Asp Tyr Val Lys Asn Lys Met Arg Glu Cys
3804          965          970          975
3806 Phe Gln Lys Ala Phe Phe Arg Lys Pro Lys Val Ile Glu Ile His Glu
3807          980          985          990

```

## RAW SEQUENCE LISTING

DATE: 03/25/2002

PATENT APPLICATION: US/09/718,355A

TIME: 10:34:30

Input Set : A:\EP.txt

Output Set: N:\CRF3\03252002\I718355A.raw

```

3809 Gly Asn Lys Ile Asp Ser Cys Met Ser Asn Asn Thr Gly Ile Glu Ile
3810          995          1000          1005
3812 Ser Lys Glu Leu Asn Tyr Leu Arg Asp Gly Asn Gly Thr Thr Ser Gly
3813      1010          1015          1020
3815 Val Gly Thr Gly Ser Ser Val Glu Lys Tyr Val Ile Asp Glu Asn Asp
3816 1025          1030          1035          1040
3818 Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val Thr Val Pro Ile
3819          1045          1050          1055
3821 Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser
3822          1060          1065          1070
3824 Ser Glu Ser Glu Leu Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser
3825      1075          1080          1085
3827 Ser Ser Glu Gly Ser Thr Val Asp Val Val Leu Pro Arg Glu Gly Glu
3828      1090          1095          1100
3830 Gln Ala Glu Thr Glu Pro Glu Glu Asp Leu Lys Pro Glu Ala Cys Phe
3831 1105          1110          1115          1120
3833 Thr Glu Gly Cys Ile Lys Lys Phe Pro Phe Cys Gln Val Ser Thr Glu
3834          1125          1130          1135
3836 Glu Gly Lys Gly Lys Ile Trp Trp Asn Leu Arg Lys Thr Cys Tyr Ser
3837          1140          1145          1150
3839 Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu
3840      1155          1160          1165
3842 Leu Ser Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile Glu Gln Arg
3843      1170          1175          1180
3845 Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr
3846 1185          1190          1195          1200
3848 Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Phe Gln
3849          1205          1210          1215
3851 Thr Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile Val Asp
3852          1220          1225          1230
3854 Val Ser Leu Val Ser Leu Val Ala Asn Ala Leu Gly Tyr Ser Glu Leu
3855      1235          1240          1245
3857 Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg Pro Leu Arg
3858      1250          1255          1260
3860 Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val Val Asn Ala Leu Val
3861 1265          1270          1275          1280
3863 Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val Cys Leu Ile Phe
3864          1285          1290          1295
3866 Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu Phe Ala Gly Lys Phe
3867          1300          1305          1310
3869 Tyr His Cys Val Asn Met Thr Thr Gly Asn Met Phe Asp Ile Ser Asp
3870      1315          1320          1325
3872 Val Asn Asn Leu Ser Asp Cys Gln Ala Leu Gly Lys Gln Ala Arg Trp
3873      1330          1335          1340
3875 Lys Asn Val Lys Val Asn Phe Asp Asn Val Gly Ala Gly Tyr Leu Ala
3876 1345          1350          1355          1360
3878 Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala
3879          1365          1370          1375
3881 Ala Val Asp Ser Arg Asp Val Lys Leu Gln Pro Val Tyr Glu Glu Asn

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/718,355A

DATE: 03/25/2002

TIME: 10:34:30

Input Set : A:\EP.txt

Output Set: N:\CRF3\03252002\I718355A.raw

```

3882          1380          1385          1390
3884 Leu Tyr Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile Phe Gly Ser Phe
3885          1395          1400          1405
3887 Phe Thr Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln
3888          1410          1415          1420
3890 Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu Gln
3891 1425          1430          1435          1440
3893 Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys Pro Gln
3894          1445          1450          1455
3896 Lys Pro Ile Pro Arg Pro Ala Asn Lys Phe Gln Gly Met Val Phe Asp
3897          1460          1465          1470
3899 Phe Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met Ile Leu Ile Cys
3900          1475          1480          1485
3902 Leu Asn Met Val Thr Met Met Val Glu Thr Asp Asp Gln Gly Lys Tyr
3903          1490          1495          1500
3905 Met Thr Leu Val Leu Ser Arg Ile Asn Leu Val Phe Ile Val Leu Phe
3906 1505          1510          1515          1520
3908 Thr Gly Glu Phe Val Leu Lys Leu Val Ser Leu Arg His Tyr Tyr Phe
3909          1525          1530          1535
3911 Thr Ile Gly Trp Asn Ile Phe Asp Phe Val Val Val Ile Leu Ser Ile
3912          1540          1545          1550
3914 Val Gly Met Phe Leu Ala Glu Met Ile Glu Lys Tyr Phe Val Ser Pro
3915          1555          1560          1565
3917 Thr Leu Phe Arg Val Ile Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg
3918          1570          1575          1580
3920 Leu Ile Lys Gly Ala Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu Met
3921 1585          1590          1595          1600
3923 Met Ser Leu Pro Ala Leu Phe Asn Ile Gly Leu Leu Leu Phe Leu Val
3924          1605          1610          1615
3926 Met Phe Ile Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala Tyr Val Lys
3927          1620          1625          1630
3929 Lys Glu Ala Gly Ile Asp Asp Met Phe Asn Phe Glu Thr Phe Gly Asn
3930          1635          1640          1645
3932 Ser Met Ile Cys Leu Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly
3933          1650          1655          1660
3935 Leu Leu Ala Pro Ile Leu Asn Ser Ala Pro Pro Asp Cys Asp Pro Asp
3936 1665          1670          1675          1680
3938 Thr Ile His Pro Gly Ser Ser Val Lys Gly Asp Cys Gly Asn Pro Ser
3939          1685          1690          1695
3941 Val Gly Ile Phe Phe Phe Val Ser Tyr Ile Ile Ile Ser Phe Leu Val
3942          1700          1705          1710
3944 Val Val Asn Ser Tyr Ile Ala Val Ile Leu Glu Asn Phe Ser Val Ala
3945          1715          1720          1725
3947 Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu Asp Asp Phe Glu Met Phe
3948          1730          1735          1740
3950 Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp Ala Thr Gln Phe Ile Glu
3951 1745          1750          1755          1760
3953 Phe Ser Lys Leu Ser Asp Phe Ala Ala Ala Leu Asp Pro Pro Leu Leu
3954          1765          1770          1775

```

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/718,355A

DATE: 03/25/2002

TIME: 10:34:30

Input Set : A:\EP.txt

Output Set: N:\CRF3\03252002\I718355A.raw

```

3956 Ile Ala Lys Pro Asn Lys Val Gln Leu Ile Ala Met Asp Leu Pro Met
3957          1780          1785          1790
3959 Val Ser Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr
3960          1795          1800          1805
3962 Lys Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln
3963          1810          1815          1820
3965 Met Glu Asp Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Glu
3966 1825          1830          1835          1840
3968 Pro Ile Thr Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Ala
3969          1845          1850          1855
3971 Ile Ile Gln Arg Asn Phe Arg Cys Tyr Leu Leu Lys Gln Arg Leu Lys
3972          1860          1865          1870
3974 Asn Ile Ser Ser Asn Tyr Asn Lys Glu Ala Ile Lys Gly Arg Ile Asp
3975          1875          1880          1885
3977 Leu Pro Ile Lys Gln Asp Met Ile Ile Asp Lys Leu Asn Gly Asn Ser
3978          1890          1895          1900
3980 Thr Pro Glu Lys Thr Asp Gly Ser Ser Ser Thr Thr Ser Pro Pro Ser
3981 1905          1910          1915          1920
3983 Tyr Asp Ser Val Thr Lys Pro Asp Lys Glu Lys Phe Glu Lys Asp Lys
3984          1925          1930          1935
3986 Pro Glu Lys Glu Ser Lys Gly Lys Glu Val Arg Glu Asn Gln Lys
3987          1940          1945          1950

```

4276 &lt;210&gt; SEQ ID NO: 84

4277 &lt;211&gt; LENGTH: 566

4278 &lt;212&gt; TYPE: DNA

4279 &lt;213&gt; ORGANISM: Homo sapiens

4281 &lt;400&gt; SEQUENCE: 84

```

4282 gaattctctt aaaggtacta cctgtgatac tttttttaa aaaaaactgt ttataactta 60
4283 gcaataattc aatattttat tcttgaaatt cttacctgga aaattgcatg tagcatgatt 120
4284 tgcaaagaaa tgctatgtgg tgttgattta cttattggga agagtgggtt gagccatcag 180
4285 tatttggttt gcagggcacc accactgaaa cggaagtcag aaagagaagg ttaagctctt 240
4286 accagatttc aatggagatg ctggaggatt cctctggaag gcaaagagcc gtgagcatag 300
4287 ccagcattct gaccaacaca atggaaggta agagcaggtc atggaacagc caactttctg 360
4288 tgattatgtg ctttgtgaac tattccttct tttcatagaa ttactgaagt ctgttaccct 420
E--> 4289 gatcgaacta tatattagac ctaagaatgt gatatatggt gtacattatc acattgntta 480
4290 caaaactaat attggcctta ttctttttga cttgggtcct taccttactt gcagagtgat 540
4291 atttcaacac ttgatattat atcaat          566

```



## VERIFICATION SUMMARY

PATENT APPLICATION: US/09/718,355A

DATE: 03/25/2002

TIME: 10:34:32

Input Set : A:\EP.txt

Output Set: N:\CRF3\03252002\I718355A.raw

L:15 M:270 C: Current Application Number differs, Replaced Current Application No  
L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:18 M:280 W: Numeric Identifier already exists, <140> found multiple times  
L:18 M:281 W: Numeric Fields not Ordered, <140> not ordered!.  
L:18 M:270 C: Current Application Number differs, Replaced Current Application Number  
L:19 M:281 W: Numeric Fields not Ordered, <141> not ordered!.  
L:21 M:280 W: Numeric Identifier already exists, <140> found multiple times  
L:21 M:281 W: Numeric Fields not Ordered, <140> not ordered!.  
L:21 M:270 C: Current Application Number differs, Replaced Current Application Number  
L:22 M:280 W: Numeric Identifier already exists, <141> found multiple times  
L:22 M:281 W: Numeric Fields not Ordered, <141> not ordered!.  
L:22 M:271 C: Current Filing Date differs, Replaced Current Filing Date  
L:715 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:4  
M:340 Repeated in SeqNo=4  
L:1085 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:23  
M:340 Repeated in SeqNo=23  
L:1184 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:29  
L:2446 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:41  
L:2459 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:42  
L:2490 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:44  
L:2565 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:48  
L:2706 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:55  
M:340 Repeated in SeqNo=55  
L:3271 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:67  
L:3644 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:68  
L:4289 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:84